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Introduction and Summary

The Division of Natural Heritage (DNH) was contracted by the Tennessee Wildlife Resources Agency (TWRA) to conduct distributional surveys for two-state endangered crayfish, the Caney Fork crayfish (*Cambarus pristinus*) and Brawley's Fork crayfish (*Cambarus williami*) for fiscal year (FY) 04-05, the results of which were reported in August 2005. For FY 05-06 this contract was renewed and amended to include a third state-endangered crayfish, the Hardin County crayfish (*Orconectes wrighti*). As the vast majority of work on *C. williami* was completed during the FY 04-05 project, the current study touches only minimally on that species. Rather, this study focuses on potential unsampled *C. pristinus* sites identified during the FY 04-05 project, and on historical and novel sites potentially containing *O. wrighti*. Surveys for the three species were undertaken between fall 2005 and summer 2006.

Cambarus (Veticambarus) pristinus Hobbs was described in 1965 from specimens collected in Whiteoak Creek, Cumberland County, Tennessee (Hobbs, 1965). Its probable distribution is regarded as the sandstone-dominated tributaries of the upper Caney Fork drainage in Van Buren, Cumberland, White, and Bledsoe counties, Tennessee (Hobbs, 1989; Williams, 2001). The species was reported from ten sites (of seven streams) prior to the initiation of the FY 04-05 study, five of which were considered historical. That study documented the species from an additional six streams and reconfirmed two other locations in Cumberland County. The current effort documents the species from an additional nine sites in eight streams, and reconfirms three locations in Cumberland County. This adds six streams known to support *C. pristinus*, bringing the total known to nineteen.

Cambarus (Glareocola) williami Bouchard & Bouchard was described in 1995 from specimens collected in Brawley's Fork, Cannon County, Tennessee (Bouchard & Bouchard, 1995). This species is believed to be restricted to the cobble-dominated upper portion of the East Fork Stones River and its tributaries in Cannon County, Tennessee (Bouchard & Bouchard, 1995; Williams, 2001; Withers & McCoy, 2005). Prior to initial surveys conducted by the DNH 1999-2001, this species was only reported from the type locality, Brawley's Fork. The earlier DNH surveys documented the species in an additional eleven segments in nine streams. The FY 04-05 surveys documented the species at another 21 sites in nine streams, including the East Fork Stones River proper. Two previously known records were reconfirmed. The current study adds one new location and reconfirms two records first obtained in 1999-2000. *C. williami* is now known from eighteen streams in Cannon County.

Orconectes (Faxonius) wrighti Hobbs was described in 1948 from specimens collected in Robinson Creek, Hardin County, Tennessee (Hobbs, 1948). The species is believed to be restricted to a few tributary drainages of the Tennessee River from Alcorn County, Mississippi to central McNairy and Hardin counties, Tennessee (Hobbs, 1989; INHS, 2006; NMNH, 2006;

Butler, 2002). All drainages containing the species empty into the left-descending bank of the Tennessee River, spanning approximately 19.5 river miles from Robinson Creek near Pickwick Dam to Beason Creek northeast of Adamsville. The species was known from four historical locations before 2005. The current study has documented the species at two of the historic locations, and reports them in another nineteen sites in seventeen streams. *O. wrighti* is now reported from nineteen streams in Hardin & McNairy counties in Tennessee.